EXHIBIT K

Bennet Omalu
PATHOLOGY

Phone: 279-345-1300
Fax: 866-402-6875
bennetomalu@bennetomalu.com

Autopsy and Anatomic Pathology
Clinical Pathology and Toxicology
Forensic Pathology

Neuropathology
Epidemiology
Medico-Legal Consultations

Benjamin Nisenbaum, Esq.
Law Offices of John L. Burris
Airport Corporate Centre
7677 Oakport Street, Suite 1120
Oakland, California 94621

March 14, 2023

Dear Mr. Nisenbaum,

Re: Angelo Voit Hugo Quinto, Deceased
Medico-Legal Report

Summary of Education, Training and Experience
I completed medical school in 1990 at the University of Nigeria, Enugu, Nigeria. Upon graduating from medical school, I completed a one-year clinical housemanship at the University of Nigeria Teaching Hospital in the fields of pediatrics, internal medicine, general surgery, obstetrics, and gynecology. After housemanship, I worked as an emergency room physician at a university hospital in Nigeria for approximately three years. I sat for and passed my United States Medical Licensing Examinations [USMLE] while I worked as an emergency room physician. I came to the United States in 1994 through a World Health Organization scholarship to become a visiting research scholar for eight months at the Department of Epidemiology, Graduate School of Public Health, University of Washington, Seattle, Washington.

In 1995, I proceeded to the College of Physicians and Surgeons of Columbia University, New York, New York, at Harlem Hospital Center, to complete residency training in Anatomic Pathology and Clinical Pathology. In 1999 I proceeded to the University of Pittsburgh, Pittsburgh, Pennsylvania to complete residency training in forensic pathology and neuropathology. I hold four board-certifications in Anatomic Pathology, Clinical Pathology, Forensic Pathology and Neuropathology. I also hold a Masters in Public Health [MPH] degree in Epidemiology from the Graduate School of Public Health, University of Pittsburgh, Pittsburgh, Pennsylvania. I also hold a Masters in Business Administration [MBA] degree from the Tepper School of Business, Carnegie Mellon University, Pittsburgh, Pennsylvania, one of the leading business schools in the world. I am a Certified Physician Executive and an honorary fellow of the American Association of Physician Leadership [AAPL]. I also hold a fifth board-certification in medical management from the AAPL. I am licensed to practice medicine and surgery in four states in the United States namely Hawaii, California, Indiana, and Pennsylvania.

I am currently the President and Medical Director of Bennet Omalu Pathology [BOP], a California medico-legal consulting firm, and a Clinical Professor at the Department of Medical Pathology and Laboratory Medicine, University of California, Davis. In my capacity as the Medical Director of BOP, I am a consulting forensic pathologist and neuropathologist to many hospitals in central California and to several counties in northern California. There are less than a few dozen practicing forensic pathologists-neuropathologists in the United States who are board-certified in both forensic pathology and neuropathology.

For over twenty-three years, I have been involved in over twelve thousand death and injury investigations in my career as a forensic pathologist and neuropathologist, which began in 1999. I have personally conducted and performed over ten thousand autopsies and death investigations and examined over eleven thousand brain tissue specimens. I also perform trauma pattern analysis in both living patients and deceased patients to determine causes and mechanisms of sustenance of injuries and death. I am also involved in the evaluation of living victims of all types of injuries and trauma, including but not limited to victims of assault, traumatic falls, industrial and accidental injuries, medical complications and misadventures, rape, child abuse and sports-related injuries. I have been consulted and retained as an expert witness in about two thousand cases involving all types of medico-legal cases across all jurisdictions in the United States including federal, state, county and municipal courts and arbitration panels; in both civil and criminal cases, for the plaintiff, defense, district attorneys and public defenders. I have been involved as an expert witness in complex class action and industrial lawsuits involving thousands of individuals and major corporations.

My areas of interest and focus include brain patho-physiology, brain injuries and brain trauma, in both living and deceased patients. I identified Chronic Traumatic Encephalopathy [CTE] in a retired football player when I performed an autopsy and examined the brain of Mike Webster in 2002. Subsequently, I identified CTE in other high-impact, high-contact sports athletes and in military veterans suffering from Post-Traumatic Stress Disorder [PTSD]. Since 2002 CTE has received international attention from the sports industry, sports medicine, and neuroscience. My work has been featured extensively in all media platforms across the world. My work and life were featured in a major Hollywood film, “Concussion” released in December 2015 by Sony Motion Pictures, in which the renowned actor, Will Smith, played me as Dr. Omalu. Several New York Times best-selling books have also been published on my life and work including “The League of Denial” and “Concussion”. I have published several books including my memoir, “Truth Doesn’t Have a Side”, which was published in August 2017. My latest book, “Brain Damage in Contact Sports” was published in February 2018. I have published extensively in the medical and scientific literature authoring many scientific papers and book chapters.

I have received three honorary PhD degrees from two universities in the United States, and from the Royal College of Surgeons of Ireland in recognition of my work and expertise. I have also received numerous awards from across the world in recognition for my work and expertise in both living and deceased patients. I have received the “Distinguished Service Award” from the American Medical Association [AMA], which is the most prestigious award of the AMA. I have been honored by the United States Congress and I have appeared on multiple occasions before committees of the United States Congress and committees of State Legislatures across the Unites States advising them on matters relating to trauma. In 2019 and 2020 I was appointed to the Traumatic Brain Injury Board of the State of California to advise the state on matters relating to traumatic brain injuries.

Since 1999 I have testified as an expert witness in matters relating to all types of injuries and deaths in over 600 court proceedings across the United States. I have attached a copy of my curriculum vitae, which enumerates my body of work and experience in greater detail. I have also attached my fee schedule. The cases I have testified in, beginning in 2009, are enumerated at the end of my curriculum vitae.

Pursuant upon your request I have reviewed the following materials in the cases of Angelo Voit Hugo Quinto, Deceased:

1. Death Certificate
2. Autopsy Reports
3. Autopsy Pictures
4. Contra Costa County Coroner's Report
5. Police and District Attorney Reports
6. Deposition transcripts of Dr. Ogan
7. Coroner Inquest transcripts
8. Cellular Telephone Footage
9. Medical Records from Delta Medical Center
10. Report from Contra Costa County Fire Protection District
11. Interview of involved Police Officers
12. Interview of Witnesses

A Brief History of the Prevailing Forensic Scenario[1]:

At the time of his death on December 26, 2020, Angelo Voit Hugo Quinto (Angelo Quinto) was a 30-year-old Filipino male who was born on March 10, 1990 (Medical records from Delta Medical Center identified him as a Hispanic male). Following an autopsy performed at the Contra Costa County Sheriff-Coroner's Department, and following a coroner's inquest, Angelo Quinto's death certificate was amended to state that he died as a result of Excited Delirium Syndrome due to Acute Drug Intoxication with Behavior Disturbances due to Arrest Related Death with Physical Exertion.

He was last seen at the Delta Medical Center with injuries he sustained following a forceful restraint by officers of the Antioch Police Department (APD). He had a history of mental illness as well as drug and alcohol abuse. Angelo Quinto was discharged from Navy at the boot stage because of a stated allergy to shellfish. He was single and lived with his mother and a stepsister. He also had a brother and a stepfather who was separated from his mother.

On December 23, 2020, at about 11:10 pm, a 911 call came through from Quinto's sister about Angelo Quinto who was involved in a domestic dispute and altercation with his family. Angelo Quinto was apparently displaying symptoms of a mental breakdown and illness, and was said to be acting paranoid, nervous and aggressive.

Consequently, Officers Becerra and Perkinson were dispatched to the location at 1909 Crestwood Drive Antioch, CA, 94509, with Officer Perkinson as the primary officer. They arrived there at approximately 11:13 pm and were met by Angelo Quinto's sister who was holding a hammer in her hand. She led them through the hallway towards the rear bedroom from where the sound of commotion was heard by the officers. As they entered the room, they saw Angelo

[1] This section of the report should not be used and is not intended to be used to establish the facts in this case.

Quinto and his mother on the ground in a “bear hugging” position. Angelo’s mother was on her side with her back against the entertainment stand, holding Angelo with her arms wrapped around him. Angelo’s chest was against his mother’s chest, with his head resting on her left shoulder.

According to the officers’ reports, they separated the duo and as Angelo Quinto tried to pull away, the officers pushed him into a prone position, on his stomach. With Officer Becerra holding his left hand and Officer Perkinson holding his right hand, they were able to put his hands behind him in handcuffs. As Angelo Quinto continued to struggle, one of the officers held his legs in a “figure-four” hold while the other officer held his left shoulder with one of his knees (while the other was on the ground). One officer placed his shin on the back of Angelo Quinto’s neck horizontally, across the top of his shoulder blades and the nape of his neck. Both officers opined that the case before them was psychiatric in nature and at approximately 11:16 pm, Officer Perkinson requested additional officers as well as an ambulance, and a wrap. At 11:17 pm, Officer Hopwood arrived at the scene and together with officer Becerra restrained Angelo Quinto: Officer Becerra maintained Angelo Quinto’s legs in the “figure-four” position while Officer Hopwood knelt on his left shoulder in a “catcher’s” position. Angelo Quinto allegedly calmed down and Officer Hopwood got off him and decided there was no need to use the wrap on him.

At approximately 11:18 pm, the American Medical Response (AMR) personnel were dispatched to the location, and they arrived at approximately 11:23 pm and established contact with Angelo Quinto at approximately 11:25 pm. The officers rolled Angelo Quinto over, and AMR personnel could see that he was unresponsive with a purple face that was blood-stained. There was also blood on the floor. At approximately 11:29 pm, Officer Becerra broadcasted that Angelo Quinto had become unconscious while being detained and cardiopulmonary resuscitation (CPR) commenced, and he requested a supervisor to respond to the scene.

At approximately 11:30 pm, Angelo Quinto was placed on the gurney and transported to Sutter Delta Medical Hospital (SDMH) by the AMR personnel. The ambulance departed the location at approximately 11:38 pm and arrived at the hospital at approximately 11:43 pm. While on transit, Angelo Quinto remained pulseless and apneic with a pulseless electrical activity on EKG. He had 2 doses of epinephrine and a laryngeal mask airway (LMA) with good color change. His pupils remained dilated and fixed.

Medical records from Sutter Delta Medical Center showed that Angelo Quinto was received in the emergency room in cardiac arrest. CPR was continued and he achieved a return of spontaneous circulation (ROSC). He was subsequently put on a mechanical ventilator. He developed twitches that progressed to tonic clonic seizures. He had fixed and dilated pupils, but CT scan did not show loss of the differentiation of gray-white matter. His labs showed a lactic acidosis, mild hyperkalemia, acute kidney injury as well as hypernatremia which are consistent with cardiac arrest and electrolyte shifts. Intravenous fluids were given liberally as the patient's lactate was markedly elevated. Antibiotics were also ordered and given for suspected aspiration pneumonia. Patient had an elevated temperature, but it was unclear whether it was a fever or hyperthermia. His drug screen was negative even though police reported to AMR that he had a history of methamphetamine abuse. Chest X-ray showed atelectasis in the dependent portions of the lungs bilaterally. The nasogastric tube tip was in the stomach, but the side hole was at the gastroesophageal junction and was to be advanced further. Endotracheal tube tip was 3.7 cm above the carina. The CTA neck with/without contrast also showed the enteric tube coiled in the

nasopharynx. Repositioning was to be considered. CT brain did not show any acute intracranial abnormality.

Angelo Quinto was reviewed as critically ill with the following diagnoses:
1. Cardiopulmonary arrest
2. SIRS (systemic inflammatory response syndrome)
3. Shock (requiring 3 vasopressors)
4. Hyperkalemia
5. AKI (acute kidney injury)
6. Hypernatremia
7. Lactic acidosis
8. Contact with and (suspected) exposure to other viral communicable diseases.
9. Shock liver
10. High risk of anoxic brain injury
11. High risk of another cardiac arrest

He was admitted to the intensive care unit (ICU) and placed on hypothermic protocol. During his admission, he remained unresponsive and had persistent twitching and convulsions despite adequate sedation and later he developed multiorgan failure. On December 26, 2020, he had a repeat cardiac arrest but was not resuscitated (because his mother had agreed to "Do Not Resuscitate" [DNR] status) and at approximately 1:44 pm, he was pronounced dead by Registered Nurses Carol Bratanov and Ken Quach.

Angelo Quinto's final hospital diagnoses were stated as follows:

Final Diagnoses (ICD-10-CM)

Code	Description	POA	CC	HAC	Affects DRG
I46.9 [Principal]	Cardiac arrest, cause unspecified (CMS/HCC)	Yes	No	No	Yes
J69.0	Pneumonitis due to inhalation of food and vomit (CMS/HCC)	Yes	MCC	No	Yes
J96.00	Acute respiratory failure, unspecified whether with hypoxia or hypercapnia (CMS/HCC)	Yes	MCC	No	No
N17.0	Acute kidney failure with tubular necrosis (CMS/HCC)	Yes	MCC	No	No
K72.00	Acute and subacute hepatic failure without coma	No	MCC	No	No
R65.11	Systemic inflammatory response syndrome (sirs) of non-infectious origin with acute organ dysfunction (CMS/HCC)	Yes	MCC	No	No
E87.2	Acidosis	Yes	CC	No	No
G93.1	Anoxic brain damage, not elsewhere classified (CMS/HCC)	No	CC	No	No
I42.9	Cardiomyopathy, unspecified (CMS/HCC)	Yes	CC	No	No
M62.82	Rhabdomyolysis	No	CC	No	No
E87.0	Hyperosmolality and hypernatremia	Yes	CC	No	No
K62.5	Hemorrhage of anus and rectum	No	CC	No	No
R57.0	Cardiogenic shock (CMS/HCC)	Yes		No	
I95.9	Hypotension, unspecified	No		No	
Z20.828	Contact with and (suspected) exposure to other viral communicable diseases	Yes		No	
Z66	Do not resuscitate	No		No	
E87.6	Hypokalemia	No		No	
E87.5	Hyperkalemia	Yes		No	

Angelo Quinto reportedly did not have a pre-existing medical condition but had received medical attention on several occasions concerning a problem with his shoulder popping out of the socket. He was under the care of a therapist for mental health issues that were not yet adequately diagnosed. He had a history of drug (Methamphetamine, Marijuana, and Cocaine) and alcohol abuse. Two packages of unopened medication labeled Modafinil 200, with a total of 20 tablets, were recovered in his room during an investigation after the incident, in addition to crumbled packages of Modafinil. He reportedly had a shellfish allergy.

Two months prior to the current encounter, Angelo Quinto had a contact with officers of the APD when he exhibited an unruly behavior, yelling and jumping on a neighbor's fence. He was not cooperative with the police officers but with the help of the personnel of the AMR, he was transported to the hospital where it was determined he had exhibited abnormal behavior.

According to Angelo Quinto's mother, he often had anxiety and paranoid episodes with an overwhelming desire to be close to family members and she would normally smoke a cigarette with him to calm his nerves. On this current episode, she explained that Angelo Quinto "freaked out" when he heard the police were called so, she placed him in a "bear hug" position, because she was concerned about how he would respond to the police. In her statement, she said that Angelo Quinto wasn't "really resisting" and he was not struck by any officer and that she was actually relieved when they arrived at the scene. However, she noted that one police officer had his shin on the back of Quinto's neck, across the top of the shoulder blades and crossing the nape of his neck, while he was being placed in handcuffs. She was concerned that the officers didn't check on his health while waiting for the paramedics. Angelo Quinto's sister reported that he was paranoid and anxious but not angry. She noted that Angelo Quinto had manifested a similar but milder behavior in the past.

Angelo Quinto's stepfather, though he was absent during the incident, reported that Angelo Quinto often used marijuana and drank alcohol and was involved in Graffiti while in high school. He stated that in 2020, Quinto was a victim of an assault in Berkeley, California, and was hospitalized but he left the hospital before the police could contact him.

Autopsy

Please refer to the two autopsy reports in this case, which are attached to this report as Appendix A (autopsy by Dr. Ogan) and Appendix B (autopsy by Dr. Omalu).

A first full autopsy was performed on the body of Angelo Voit Hugo Quinto (Angelo Quinto) at the Contra Costa County Coroner's Office on December 28, 2020, by Dr. Ikechi Ogan, Forensic Pathologist. Dr. Ogan opined that Angelo Quinto, a 30-year-old Filipino male died as a result of Excited Delirium Syndrome due to Acute Drug Intoxication with Behavioral Disturbances due to Arrest-Related Death (ARD) with Physical Exertion. The manner of his death was determined to be an accident.

A second full autopsy was privately commissioned by the Quinto family and was performed on January 4, 2021, by Dr. Bennet Omalu, Forensic Pathologist/Neuropathologist. Dr. Bennet Omalu opined that Angelo Quinto a 30-year-old Filipino male died as a result of Restraint Asphyxiation. No other contributory factor was stated. Dr. Omalu opined that the death of Angelo Quinto, was a homicide.

Toxicologic analyses of hospital blood samples submitted to the NMS laboratories by the Contra Costa County Sheriff-Coroner's Office revealed the following toxicologic profile:

Positive Findings:

Compound	Result	Units	Matrix Source
Modafinil / Armodafinil	15	mcg/mL	002 - Hospital Blood
Caffeine	Positive	mcg/mL	002 - Hospital Blood
Levetiracetam	15	mcg/mL	002 - Hospital Blood

Toxicologic analyses of autopsy femoral blood samples submitted to the CVT laboratories by Dr. Omalu revealed the following toxicologic profile:

Fentanyl = 0.52 ng/mL

Levetiracetam = 14 mg/L

Modafinil = Present*

It should be noted that while in the hospital, Angelo Quinto was administered both Fentanyl and Levetiracetam. Dr. Ogan opined in his deposition that Fentanyl was not present in Mr. Quinto's urine, and played no role in his death whatsoever.

Summary of Dr. Ogan's Depositions

A. Summary of Deposition of Ikechi Ogan, M.D. (Volume I, July 27, 2022)

1. Dr Ogan took an oath to tell the truth at the coroner's inquest pertaining to Mr. Quinto on August 20, 2021. At the time of his inquest testimony, his coroner's report had not been released publicly. He signed off the report on July 30, 2021. He doesn't know if the hearing officer had a copy of the report at the time of his coroner's inquest on August 30, 2021. The distribution of the report is managed by the people employed by the county, not Dr Ogan or his agents.
2. Dr Ogan got his medical degree from University of Jos, Nigeria in 1985. He completed his four-year residency in pathology at Howard University Hospital. He did a surgical pathology fellowship in Cedars-Sinai Medical Center in Los Angeles in 1996 and a forensic pathology fellowship at Wayne County Medical Examiner's office in Detroit, Michigan. He spent two years studying Neuropathology at the University of Virginia in Charlottesville from 2000 to 2002.
3. After Dr. Ogan's neuropathology program, he was offered a position by the Forensic Medical Group out of Fairfield, California (the "Group"). It was a group of private pathologists who formed private practice and had contracts to perform autopsies and death investigations for a number of counties in Northern California. One of those contracts was with Contra Costa County. The Group was run by Dr. Arnold Josselson, Dr Mark Super and Dr. Brian Peterson. He worked with them up until 2018, when the Group closed because two of the owners left to take up jobs elsewhere.
4. After he left the Group, he worked as a pathologist in Contra Costa County, private practice. There is a loose partnership between himself, Dr Super and Dr Josselson although, they all practice independently. Dr Ogan is a sole proprietor of his company, North Bay Forensic Pathology. He has no other clients other than Contra Costa County. His company charges differently depending on the complexity of the autopsy but the base rate charge for an autopsy is $1,200.
5. Dr Ogan is not board certified. He took an exam once, when he was younger, but he didn't complete it because he was ill. He never took the exam again because he has a health condition

that makes him sick when stressed out and he was advised by a doctor not to put his health at risk any further. He had never worked in an emergency room before.

6. Dr Ogan is aware of the article published on February 5, 2011. The article is titled "*Investigation: Forensic Firm Used By County Has Botched Cases*" by Ryan Gabrielson California Watch. He is aware that the article referred to the Group. He is also aware that the article stated that "*One of the firm's most prolific practitioners, Dr Ikechi Ogan, is not certified as a forensic pathologist by the American Board of Pathology, a measure of basic competence in the field.*". He is not aware that the Group's contracts with clients specified that only certified forensic pathologists should do its work.
7. The contract Dr Ogan has with Contra Costa County requires at least one of the pathologists to be board-certified. Although he is a sole proprietor, he has a loose partnership with the other pathologists earlier mentioned. Dr Ogan has no employees. He does not have people who he contracts with who are board-certified. Everyone Dr Ogan works with at Contra Costa County knows Dr Ogan is not board-certified. He did not have any discussions with Matthew Guicharb, the hearing officer of the inquest, about being board-certified.
8. A hundred percent of Dr Ogan's income comes from Contra Costa County. They pay an average of 200,000 a year. Contra Costa County also contract Dr. Josselson and Dr. Super. Dr Ogan performed an autopsy on Angelo Quinto on December 20, 2020. He reviewed Mr. Quinto's medical records when performing the autopsy. When he testified at the coroner's inquest, he was aware that Mr. Quinto had been given Keppra or Levetiracetam while he was hospitalized. Dr Ogan is aware that Keppra or Levetiracetam is an antiseizure drug. He stated that Mr. Quinto was given a lot of medicine and he is not aware of all of it. He only did a brief but reasonable overview of the medical records.
9. During the course of the autopsy, Dr Ogan noticed that Mr. Quinto had bleeding coming out from his mouth. He explained that Mr. Quinto had some injuries inside his mouth which he thought was gotten during intubation or other medical procedures. He didn't see evidence of applied force to Mr. Quinto's mouth or lips. He saw bite marks on his tongue and inner cheek which were consistent with a seizure. He won't rule out the possibility that Mr. Quinto had a seizure.
10. Dr Ogan reiterated that he didn't go through all Mr. Quinto's medical records. He got information from the investigators that Mr. Quinto had been on some seizure medicine as well as other medications. He couldn't determine why Keppra was given to Mr. Quinto because sometimes, drugs are used off -label to treat other symptoms. He wasn't aware that Mr. Quinto suffered seizures only in the hospital in the course of the brain death that was being completed.
11. Dr Ogan was aware, at the time of his inquest testimony, that the doctors had diagnosed Mr. Quinto with an anoxic brain injury at the time he was brought into the hospital. However, he wouldn't state with certainty that the seizures were likely caused by the anoxic brain injury Mr. Quinton suffered at the time of the incident. This was because there were several reasons for seizures which include, Hypoxia (lack of oxygen), Hypoglycemia (low glucose), a preexisting seizure focus or epilepsy and a mild formation in the brain.
12. Dr Ogan in his coroner's inquest testimony described Modafinil as a drug that acts as a stimulant on the brain. He is not a toxicologist and thus, agreed that he would defer to the opinion of a toxicologist or a pharmacologist to determine whether Modafinil played any role in Mr. Quinto's death. However, he did not consult with any pharmacologist or toxicologist.
13. In page 50, line 6 to line 8 of his coroner's inquest testimony, he stated that "*Modafinil has been listed as one of the drugs that causes the excited delirium syndrome and is recognized as being implicated in this syndrome*". The authorities for this statement as cited in his report are - the Academic Emergency medicine, Arrest Related Death on the Basis of Drug-Induced Excited Delirum Syndrome, S.N. Kunz, Restraints and Police Use-Of -Force Events, Examining Sudden

in-Custody Deaths of Prone and Non-Prone Positions, J Forensic Med, 2015 and Excited Delirium Syndrome Pathophysiological and Medial Legal Aspects.

14. Dr Ogan hasn't done any in-depth search on Modafinil so he could not determine whether Modafinil had been identified as the cause of a person's death. He is only aware that Modafinil has been connected to excited delirium. The Modafinil detected in Mr. Quinto's blood was 15 micrograms per ML. Dr Ogan doesn't know the effective blood levels or the standard dose of Modafinil off the top of his head. He cannot recall if the Modafinil found in Mr. Quinto was a high or low level because he was given information that the case was not a dose-related response.
15. Dr Ogan agreed that people who die from excited delirium have oxygen in their blood. He knows there are bodies in medicine that do not recognize excited delirium as a legitimate cause of death and he's not aware if the American Medical Association was one of them. Thus, it was mentioned in his write up that it was controversial. Dr Ogan has diagnosed asphyxiation during restraint as a cause of death before. He understands that when people are in prone position and weight is put on them, it makes it difficult for them to breathe which results in death. He added that there are cases where a person under the influence can die of asphyxiation.
16. In his coroner's report, Dr Ogan wrote the cause of death as excited delirium syndrome due to acute drug intoxication with behavior disturbance due to arrest-related death with physical exertion. He tried to put as much information as he could into the cause of death.
17. Dr Ogan is aware of the enormity of the case. He believed that every law enforcement-involved death of a citizen was a significant issue, this is why he tried to be as expansive in his search for information on why the incident happened. He conducted three levels of toxicology to include more drugs and chemicals. He stated that regardless of who paid him, his patient was the decedent.
18. When reviewing his report, Dr Ogan discussed his findings with Dr Josselson and Dr Super and he stands by those findings. In his report, he stated "Prone position with weight on the back may have played an additional role. Case reviewed with A Josselson, M.D and M. Super, M.D. however, he didn't mention it during the coroner's inquest testimony because he was not asked the question.
19. Dr Ogan stated that Mr. Quinto developed excited delirium and suffered hyperthermia when he was brought to the hospital. He stated that the events happened in continuum and while some people who have hyperthermia sweat, others don't. Afterwards, Mr. Quinto developed pneumonia. Dr Ogan stated that 100.4 degrees was consistent with a fever. Mr. Quinto was given medicine to prevent aspiration pneumonia since there was a possibility that he had it. The last time Dr Ogan treated a living person was in 1989. He had worked in an emergency room in Nigeria.
20. Dr Ogan is aware that excited delirium is typically associated with a hyperthermia that causes intensive sweating, excessive sweating, excessive perspiration, and a temperature of about 105 degrees. He did not review the interviews of any of the officers at the scene because he wanted to keep a clear unbiased mind and not have any preconceived notions. He is not aware that an officer stated that Mr. Quinto's skin had normal temperature and that he wasn't sweating excessively or noticeably.
21. Dr Ogan stated that the hospital had a working diagnosis of fever due to either hyperkalemia or infection. Mr. Quinto was given antibiotics to cover the infection, which in his opinion, could not have occurred at that point because it was too early. In his opinion, the fever was not from an organism, instead, it was caused by deranged physiology which occurs during excited delirium. He has never treated pneumonia in the United States; he only ever did so when he was back in Nigeria.
22. Photographs were taking during Mr. Quinto's autopsy by a criminalist. Dr Ogan doesn't recall if photos were taken of Mr. Quinto's eyes. He pointed out things he thought should be photographed to the criminalist. Dr Ogan described petechial hemorrhages as tiny pinpoint hemorrhages which

occurs when small blood vessels burst. He agreed that it could correlate with death by restraint asphyxiation and increased venous pressure.

23. Exhibit1- BOP20-026A (50) (Photo of Mr. Quinto's right eye)- Dr Ogan testified that he found no petechial hemorrhage in Mr. Quinto's eyes. When shown the exhibit, he agreed that there were petechial hemorrhages there. He stated that the hemorrhages were not present when he conducted the autopsy. He explained that it was not unusual because sometimes petechiae shows up days after death. He conducted Mr. Quinto's autopsy on the December 28, 2020, two days after Mr. Quinto passed. He doesn't know the time Dr. Omalu conducted his autopsy.
24. According to Dr. Ogan, capillaries are susceptible to rupture when there is an increase in intervascular pressure for whatever reason, including when one is prone, and pressure is being applied to the back. In addition, they could also rupture if a person coughs vigorously or strains while sitting on the toilet. Since petechiae can become apparent postmortem, it was vague to say that Mr. Quinto suffered these hemorrhages while alive.
25. Dr Ogan is not familiar with the studies by Maxeimer that demonstrates that CPR does not cause petechial hemorrhages. In a few autopsies he has conducted, petechiae showed up in the eyes of young people and babies when they received vigorous CPR. He clarified that as science develops, several points of view are held regarding each new study. In his career, he claimed to have seen publications that linked CPR to petechial hemorrhages.
26. Exhibit 3 (BOP20026) – Dr Ogan identified several petechial hemorrhages on the lower eyelids on Mr. Quinto's right eye. No petechial hemorrhage was found in Exhibit 4 & 5. Exhibit 6 – Two petechiae were found on Mr. Quinto's left eye. Exhibit 7 – Two petechiae found. Exhibit 8 -This exhibit, in Ogan's opinion, looked like dilated blood vessels, although, he could concede that some of them could be classified as petechiae.
27. Exhibit 9 – Dr Ogan stated that there was substantial petechiae and ecchymosis. He described ecchymosis as larger petechiae. There were two ecchymosis at the midline of the right eye next to the eyelid and another at the top of the eyeball. The petechiae are the three red spots in the upper right quadrant of the eyeball. Exhibit 10 – there was petechial hemorrhage. Exhibit11- There was a petechial hemorrhage on the left side of the right eye. There is petechial hemorrhage in Exhibit 12-15. Exhibit 16- Left eye - There is a fat pad beyond the tip of the yellow area and there are no petechiae. Exhibit 17 – there is no petechial hemorrhage, only dilated blood vessels.
28. Exhibit 18 – Dr Ogan stated that there was petechial hemorrhage underneath the fat pad, but the two lower ones looked like transverse cuts of a blood vessel. He said the same for Exhibit 19. For exhibit 20, there was one hemorrhage. Exhibit 21- Mr. Quinto's body – there was no petechial hemorrhage or ecchymosis. Exhibit 22 – Dr Ogan qualified the pinkish hue on Mr. Quinto's neck and shoulders as lividity. He explained it as the pooling of blood towards the dependent areas of the body. The lividity signified that Mr. Quinto was on his back at the hospital and in the morgue.
29. Dr Ogan suggested that when prone position is a possible factor, the autopsy should be delayed for a day or two. He stated that if he had seen the petechial hemorrhage the way he sees it now in the exhibits, he would have made more forceful statements than he did. However, he is still comfortable with his conclusions. He claims that the absence of petechia at the time of the autopsy was a key element and that, had it been present, he would have written his conclusions differently. Also, he would have emphasized some parts of the report differently.
30. Dr Ogan stated that Keppra and Levetiracetam were found in Mr. Quinto's first blood draw, when he arrived at the hospital. He assumed, from the medical records that the hospital used the landmark technique to draw blood from Mr. Quinto. He said that Mr. Quinto had tonic-clonic movements consistent with seizures and hypoxic or hypoglycemic condition. The hospital ordered propofol and Keppra to be given to Mr. Quinto and that may have been Mr. Quinto's first contact with Keppra, but Dr Ogan didn't know.

31. Dr Ogan added that if he had to conduct Mr. Quinto's autopsy again, he would add the presence of petechial hemorrhage. He reiterated that he didn't comment that the prone position with weight on back played an additional role in Mr. Quinton's death because he wasn't asked. He stated that the pictures of Mr. Quinton's eyes were done after the autopsy procedure and that there was a possibility that the removal of the brain, the maneuvering of the eyes, the sclera and conjunctiva contributed to the petechiae and ecchymosis.

B. Summary of the Deposition of Ikechi Ogan, M.D. (Volume II, August 10, 2022)

1. Dr Ogan was aware that this was volume 2 of the deposition and that he was still under oath. He had some updates that may have affected his testimony since the date of the last deposition. Preparing for this deposition, he went through some of the articles that counsel asked him to provide for them, read some of the information that they mentioned, including the drugs involved, and reviewed a select number of autopsy photographs related to Mr. Quinto and reports that his office provided.
2. Dr Ogan was particularly focused on the petechiae in the eyes which were absent in the eyes in the autopsy as reflected by the photographs. He had found it hard to understand how he could have missed the petechiae in the eyes. So, he had the pictures pulled and reviewed them. There was no hint of the petechiae in the eyes. He expressed his desire to review the pictures that the counsel showed him the last time again – taken by Dr. Omalu during a second autopsy.
3. Dr Ogan agreed that there are many different things that can cause petechiae in somebody's eyes like vigorous coughing, straining on the toilet, vomiting, chronic cough, etc. It was his understanding, from his education and experience, that anything which can basically increase the intrathoracic or intrabdominal pressure can cause petechiae. Thus, vigorous CPR can increase the intrathoracic pressure and theoretically can cause petechiae. Though he wasn't sure, he assumed that since Quinto had attention from EMS, that he received CPR.
4. The arrest incident occurred on December 23, death occurred on December 26, 2020, and autopsy occurred on December 28, 2020. From his review of the hospital records, there were emergency medical efforts to try to keep Mr. Quinto alive and reverse any issues he may have had in the hospital. These efforts which included cardiopulmonary resuscitation (cardiac massage) could have caused petechiae. Pressure cuffs were applied to put pressure around the legs to force the blood out of the legs back to the central torso and the head to increase the blood pressure by pushing the blood back towards the central areas of the body. Dr Ogan couldn't speculate whether that alone could cause petechiae.
5. There were indications of a defibrillator and EKG leads on the torso and extremities but from his knowledge and experience, he was not sure that they would produce petechiae. However, as part of the whole scope of resuscitation, anything that increases the intrathoracic and intraabdominal pressure can theoretically lead to petechiae, including significant pressure applied to the back or neck. When working on police-related death investigations, Dr Ogan looked for petechiae in other parts of the body of the decedent.
6. To indicate potential restraint-related death issues, Dr Ogan would look at the mucosa membranes of the mouth, on the lips or the tongue, on the skin from the chin downwards to the upper chest, in the fingernail beds and generally any kind of bruising that implies that there's capillary damage and leakage of blood from the capillaries and when someone received cardiopulmonary resuscitation, especially when vigorous and prolonged, he would look for petechial hemorrhaging in various places.
7. When Dr Ogan double checked between the first deposition and this second deposition, he didn't find any evidence of petechiae in Mr. Quinto's eyes and other parts of his body. If in fact that there was petechiae that was caused by the struggle that occurred on the day of the incident leading up

to Mr. Quinto's arrest, he would have expected it to show up at the autopsy 5 days after that struggle.

8. Dr Ogan understood that there was a lot of things that occurred with Mr. Quinto's body in terms of medical intervention, resuscitation efforts, efforts by hospital staff to increase the pressure to his thoracic area and head area via the pressure cuffs and other things that occurred throughout his hospital stay up until the time of death. He understood there was an altercation between the decedent, Mr. Quinto, his mother, and a family member (perhaps a sister) until the police arrived, and then they took over.
9. In his experience, Dr Ogan had not seen petechiae developing on their own without any evidence of either resuscitation or increased intrabdominal or thoracic pressures. It has been seen in people who are found sitting on the toilet, and the assumption is that they were straining out stool and then became unresponsive. It has also been seen in people who hang themselves by applying a ligature around the neck, in people who were trapped in a face-downward position or people who weight-lift. However, he had not seen petechiae develop by itself with no stimulating factor.
10. Dr Ogan's external examination indicated that Mr. Quinto was 5 foot 7 inches and weighed 220 pounds. He believed that the cause of death was a complex of features including the cardiac arrest that was complicated by the fact that there was physical exertion. There was a drug that had been linked to the syndrome and there was also prone restraint. All these factors played a role.
11. Dr Ogan saw two contusions, one on the back of Mr. Quinto's right shoulder and one at the base of the back, above the buttocks cleft. It was considered that law enforcement had put pressure on the shoulder and the low back. During the autopsy, Dr Ogan dissected those areas and found contusions that indicated that the small blood vessels, the capillaries, had been damaged and thus leaked out blood forming these contusions. Mr. Quinto had no fractures or penetrating injuries, and he had no broken ribs. Dr Ogan estimated the bruises he saw on Mr. Quinto's body to have occurred a few days between the incident and the death.
12. Dr Ogan believes that the soft-tissue abrasions and contusions did not cause the death of Mr. Quinto. The linear scrapes found on Mr. Quinto's body were consistent with fingernails scratch marks and kicking. The injuries in Mr. Quinto's mouth were not consistent with any force to the mouth. His upper and lower frenula were intact. Dr Ogan explained that it was common to have damage to the frenula when force is applied to the mouth. Although Mr. Quinto had superficial blunt-force injuries, a microscopy revealed that it did not contribute to his death.
13. Dr Ogan dissected Mr. Quinto's neck and found no injuries that could be attributed to the altercation. Mr. Quinto's neck was intact, and Dr Ogan did not find any evidence of significant pressure on it. However, Dr Ogan noticed exudates, which are liquids produced when there is an infection. The exudates were on the surface of the lungs and heart, which indicated an evolving infection. Dr Ogan isn't certain if Mr. Quinto suffered this infection at the time of the incident.
14. No head injuries were discovered during his internal and external examination of Mr. Quinto. There were no contusions on the anterior of Mr. Quinto's torso, only on his knees and sheen. Dr Ogan is aware that the hospital diagnosed Mr. Quinto with multiorgan failure with acute respiratory failure. He is not aware of the details of treatment, but he saw evidence of resuscitation, other procedures, medications, and various treatment to keep him breathing and increase blood pressure.
15. Dr Ogan believed the cerebral edema in Mr. Quinto's brain was part of cardiorespiratory compromise, which are usually found in people who are in comatose or on respirators. In his opinion, Mr. Quinto did not have cerebral edema prior to his interaction with the police. It was part of his condition after the altercation. One of the positive findings from Mr. Quinto's toxicological report was caffeine.
16. Although it is not within his scope of experience, Dr Ogan, based on his knowledge of pharmacology is aware that Caffeine could cause a rapid heart rate, which is called tachycardia.

He maintains his testimony that modafinil was linked to excited delirium based on the articles he mentioned in his previous deposition. There are also several academic papers which supports this claim. Dr Ogan did not read the report done by the American College of Emergency Physicians, but he agrees with their recognition of excited delirium as a legitimate syndrome. He understands that the National Association of Medical Examiners (NAME) have also recognized excited delirium as a legitimate syndrome.

17. Dr Ogan does not entirely agree with a statement that says: "*Excited delirium syndrome involves a sudden death of an individual during or following an episode of excited delirium in which an autopsy fails to reveal evidence of sufficient trauma or natural disease to explain the death*". He explained that the statement was incomplete. He would also include the presence of physical or mental exertion and exhaustion as well as the presence of certain prescribed drugs or illicit drugs which are usually stimulants. He would also include the prone position as a factor.
18. Dr Ogan concluded that the physical exertion, acute drug intoxication, behavioral disturbances that was reported, physical evidence and coupled with the excited delirium, caused Mr. Quinto's fatal cardiac arrhythmia and death. He believes that a person laying in prone position with their hands behind is not at risk of asphyxiation. However, it is not a good idea to apply pressure on somebody who is prone with handcuffs behind them because it does not allow the diaphragm to expand properly and so, they will be unable to breathe.
19. Dr Ogan further explained that even when there is no excited delirium syndrome involved, when a person is laying in prone position with their hands handcuffed behind them, their legs crossed and weight being applied behind them, they have a high risk of having problems breathing because in that position, the diaphragm is limited in its movement.
20. Exhibit 23 – photos of Mr. Quinto in the hospital, taken from December 24, 2020 – There were pressure pads on the sides of Mr. Quinto's legs, shin, and calf. Dr Ogan explained that this procedure was done to divert blood away from the less essential areas to the essential ones, which are the head and torso. There was no petechiae on Mr. Quinto's nailbeds. There were contusions on Mr. Quinto's mid-back area. On Image 25, Dr Ogan stated that the little abrasion on Mr. Quinto's finger and back of his hand were sites of IV needles and not injuries. Dr Ogan reiterated that he found no petechiae on any part of Mr. Quinto's body during autopsy.
21. Exhibit 24 – Autopsy photographs – these were the photographs Dr Ogan reviewed. Image 9181 is a photograph of Mr. Quinto's body when he was brought to the morgue. Dr Ogan could identify the body based on the tattoos on the hands and forearms. They took pictures of his name tag to ID him. The tape was placed over Mr. Quinto's eyes to keep it moist and prevent it from drying out. The removal of the tape wouldn't cause petechiae. Photo 9193 is Mr. Quinto hand. There is no broken or torn nail and there are no petechiae. The bulk of the marks on Photo 9194 are IV needle marks.
22. Dr Ogan recognized photo 9202 as the bag connected to the Foley catheter that was placed in Mr. Quinto to help him drain urine. The urine in the bag was black which indicated kidney failure. Dr Ogan believes that excited delirium syndrome could lead to multiorgan failure. In Mr. Quinto's neck region, there was lividity, which is the settling of blood. His leg injuries appeared to have happened at the same. However, the contusion injury on the back predates the one on the leg.
23. In Dr Ogan's opinion, Image 9206, looks like a contusion but at its purplish stage. It looked like an attempt at cystotomy , a procedure where they put needle to drain the bladder or get urine. The injury on Mr. Quinto's chest is from CPR. The injuries on image 9219 are consistent with a person already laying on the ground and moving. Image 9224 is a continuous injury. It is consistent with a blunt force injury which could be caused by a knee or if a person has fallen and hit a side table.
24. On image 9226, Dr Ogan identified a bruise close to Mr. Quinto's right scapula. On image 9231, there are contusions on his lower back. On image 9232, Mr. Quinto's left eye, there is no petechiae in the sclera, conjunctiva, the lens, or the brows. In Dr Ogan's experience, he had seen faint-

looking injuries evolve, but had never seen a situation where there were no injuries at all and afterwards there is a florid appearance of petechiae. On image 9233, there are no petechiae on Mr. Quinto's right eye. There is no bruising on Mr. Quinto's lower lip. There is a spot of bleeding on Mr. Quinto's tongue on image 9234. There is no petechiae on his upper interior lip- image 9235.

25. Dr Ogan said that image 9291 is his post-autopsy photograph. During Dr Ogan's internal examination of Mr. Quinto's body, he dissected his neck and didn't find any injuries. He removed Mr. Quinto's brain and examined his eyes, and there was no petechiae there. It was important to look at the eyes first because the examination and manipulation could cause findings that are not real to show up. On image 9292, Dr Ogan checked if the injuries on Mr. Quinto's mouth were linked to intubation and what he found were bite marks and bruising which he suspects are from seizure like activities.
26. Exhibit 25 – Quinto incident-reenactment from web- Dr Ogan only found bruises on the back of Mr. Quinto's right shoulder around his scapula, he didn't find any injuries on the left shoulder or back of his neck. He explained that a gentle pressure on the back for a long time is liable to cause less injury than applied force for a shorter time. Although there was no underlying fracture of the scapula or the ribs and no penetrating injury to the torso, Mr. Quinto's back injury was consistent with a blunt force injury. He was later informed by the deputy coroners about the placement of a knee by law enforcement in that position.
27. Exhibit 24 – Image 9225- Dr Ogan saw a contusion on Mr. Quinto's back. He explained that a contusion is caused by damaged blood vessels and that the purplish area on Mr. Quinto's back was a contusion. There was also a lividity line on Mr. Quinto's back. He descried the outline of the orangey-pinkish area as lividity. Dr Ogan confirmed the contusion when he peeled the skin and found blood outside the vessels consistent with being a contusion. The injury was about 2 inches by 2 inches. There was no injury on the left side of Mr. Quinto's body. There was no marking at the back area in Exhibit 23, when Dr Ogan performed the autopsy.
28. Dr Ogan did not speak with Mr. Blechman, the legal counsel or anyone from his office since his previous deposition. He reviewed the articles he mentioned at the last deposition. the name of the article is "Arrest-Related Death on the Basis of a Drug-Induced Excited Delirium Syndrome". It is from the Journal of Forensic and Legal Medicine. The article is written by S.N. Kunz, S. Pordardottir and J.G. Jonasson. It was published on November 16, 2020. The subject of modafinil was explicitly identified in the article. Other drugs involved were amphetamine and methylphenidate.
29. Exhibit 26 - BOP20-026A, image 49 is shown – Dr Ogan confirmed that it was Mr. Quinto in the photograph. Dr Ogan only took two photos of Mr. Quinto's eyes. He believed they were close enough photos of Mr. Quinto's eyes. He confirmed that there was a petechial hemorrhage on this exhibit. He understood that the case had a potential to be a prone restraint asphyxiation death by police. Dr Ogan stated that at the time he conducted Mr. Quinto's autopsy, he examined his eyes to see if any petechiae existed, but there were none.
30. On image 50 of Exhibit 26, Dr Ogan identified two possible petechiae. He stated that when he looked at Mr. Quinto's eyes on the 26th, there was no petechiae. Subsequently, Dr Omalu looked at Mr. Quinto's eyes on the 31st and found florid amount of petechiae. Dr Ogan stated that in his experience, he had never had a case where there was no petechiae and it shows up 5 days later. He says that usually it shows up faint and become prominent later. Dr Ogan has not reviewed his previous deposition.
31. Dr Ogan reiterated that petechiae is caused by increased intraabdominal or intrathoracic pressure and CPR is one of those things that could increase intrathoracic pressure. He doesn't know any study that supports this, he is only aware of this from experience. Dr Ogan said the mark of the LUCAS device on Mr. Quinto showed that a vigorous CPR performed on him.

32. Exhibit 28- "Resuscitation and Conjunctival Petechial Hemorrhages"- Dr Ogan does not support this article and still maintains his statement that petechiae could be caused by CPR. Exhibit 29- "Eyelid Petechia and Conjunctival Hemorrhage After Cardiopulmonary Resuscitation" – Dr Ogan claimed that there would be other studies with a different opinion and that nothing in the article categorically stated that CPR does not cause petechiae. He however gives no credence to the articles.
33. Dr Ogan was informed that Mr. Quinto became unresponsive during the struggle with law enforcement and the police began administering CPR on him. Dr Ogan is aware that the carotid artery could be compressed without leaving a bruise. He wasn't given any information that Mr. Quinto had a grand mal seizure, but he is aware that Mr. Quinto was bleeding from his mouth and that whatever was responsible for that mouth injury did is not something that happened while he was in the hospital. Dr Ogan is not aware of a person dying from excited delirium in the absence of restraint.
34. Dr Ogan believes that Mr. Quinto's heart stopped which caused cardiopulmonary arrest, anoxic brain injury, leaking of blood, cerebral edema and swelling of the brain. He believes the prone restraint impacted Mr. Quinto's diaphragm which was a contributory factor to his death.

C. <u>Summary of the Deposition of Ikechi Ogan, M.D. (Volume III, February 1, 2023)</u>

1. Dr Ogan didn't get the reports of his deposition testimony sent to him. Thus, he hadn't had a chance to review it but had a general recollection of his testimony. He was not familiar with Forensic Services Division or Bureau and didn't know that his autopsy pictures were being held there. He believed that they were with the Police but didn't know for sure. He reviewed the autopsy pictures between the first and second depositions but hadn't reviewed them since then.
2. Dr Ogan's autopsy pictures went from IMG_0001.jpg to IMG_0157.jpg. Dr Ogan didn't know whether any pictures were removed or separated from these. He didn't have possession of the pictures and thus didn't know who would have removed or added to them. He didn't actually take the autopsy pictures. Detective J. Jeong from Antioch Police Department and Criminalist E. Ocampo-Fields from the Sheriff's office took the autopsy pictures. He believed that both were taking pictures during the autopsy but couldn't remember clearly. Dr Ogan directed them to take some of the pictures.
3. On page 241, Line 13 of Volume II of his deposition testimony, the attorney had asked Dr Ogan, "*Okay. Now, you said that it's important when a citizen dies during a police encounter to do a more detailed autopsy; correct?" Dr. Ogan's answer was, "Personally, I think it is incumbent to do a complete, comprehensive, and careful autopsy because it is not normal for a citizen to die in the hands of the police*." The attorney then asked Dr Ogan if he had similar pictures as Dr. Omalu with respect to where Dr. Omalu had pulled the eyeball forward and photographed the parts of the eyes that were otherwise hidden. Dr Ogan's answer was. "Yes." – on page 242, Lines 6 through 8.
4. Photo 111 (picture of the left eye) - The eyeball wasn't pulled. The eyelashes were pulled forward to expose the visible parts of the eye. Dr Ogan stated that he was not familiar with pulling the eyeball forward - they pull the eyelashes away to expose the visible lens and the sclera of the eyes.
5. Exhibit 11 to Dr Ogan's deposition – Dr Ogan confirmed that they were photographs taken during the autopsy but couldn't remember whether they were taken during his autopsy or Dr. Omalu's autopsy as he didn't remember each picture individually. He pulled the eyebrows forward and up and down to expose the visible parts of the eye.
6. On page 241 line 20 of Volume II of Dr Ogan's deposition, he was asked: "***Q**: Now, we've seen Dr. Omalu's autopsy photos of the eyes. You recall those; correct? **A:** Yes **Q**: The answer is, "Yes." **A**: Yes, I recall you asking me that. **Q**: And you saw how he had pulled the eyeball forward to a photograph, you know, that parts of the eyes are otherwise hidden; correct? **A**: Yes **Q**: Ok. That was a thorough documentation, correct? **A**: Yes **Q**: So, you have photographs of his eyeball*

pulled forward? ***A****: Yes"*. When asked for the photographs Dr Ogan stated he had above, Dr Ogan said that the two images earlier shown to him were his pictures and that he followed the usual procedure he was taught. He said that during that deposition, he might have misunderstood the question to be regarding Mr. Quinto's eyebrow.

7. Exhibit 1 (BOP20-026A) – Dr Ogan identified petechial hemorrhage in the picture. He said it was the bigger one at the bottom of the eye. In Dr Ogan's deposition testimony, Volume I at page 74, line 18, the attorney asked "***Q****: There are petechial hemorrhages there; correct?* ***A****: Yes. I can see them…. There's maybe another couple throughout the lateral angle of the eye"* ***Q****: Are you talking about down here?* ***A****: No. On the top, up around here*". Dr Ogan said that he was referring to the big one and the one next to it. He said he may have referred to the others, but he didn't specifically say that the others were petechiae and he stands by his statement. Dr Ogan was unsure that was why he said maybe in his statement. He concurred that seeing someone in person gives you the clearest picture.
8. Exhibit 9 (No 59 of Dr. Omalu's photos) – Dr Ogan couldn't recall seeing this exhibit in his first deposition. He stated that the petechiae in the exhibit were large and prominent and he had no hint of the petechiae when he conducted his examination. Exhibit 5 – (No 54 of Dr. Omalu's photos) – there was an eyelid lift and Dr Ogan could not identify any petechial hemorrhage in that picture. He said that the picture was taken from an inferior angle looking upward and there was very little of the sclera exposed. He took all of the visible sclera without deflating the eye and pulling it forward. Since there was no hint of petechiae, there was no need to pull the eyeball forward to examine the back of the eye.
9. Dr Ogan did not pull the eyeballs forward the way Dr. Omalu did. He stated that it would have been wiser for him to wait for a day or two before conducting his autopsy. He said that in exhibit 9, the area at the tip of the forceps would have been visible to him during the examination. If the big petechiae was there, it would have been visible at his examination. The two petechiae on the whites of the eyeball was not there, so he had no reason to think there would be other petechiae.
10. Exhibit 30 – IMG_0112 – Dr Ogan had earlier testified in his second deposition that he reviewed the pictures in his first deposition, and he saw no petechial hemorrhage. For this exbibit, he explained that the sclera and conjunctivae had a lot of tiny blood vessels that run in them and that the three dots in the picture were thin blood cells, not petechiae. He acknowledged from exhibit 1, that the three spots seen in Exhibit 30 were petechiae.
11. In page 45, lines 17-20 of Dr Ogan's Coroner's Inquest, he stated that "*Now, a couple weeks down the line, because of the enormity of the case and the consequences, we decided to do a re-testing, this time doing an expanded test.*" He was talking about the toxicology testing here and he didn't revisit the question of petechial hemorrhage because the body wasn't with him to examine it. Also, there was no need to go back to look for it then.
12. Both prone and supine individuals have been observed by Dr. Ogan to have petechiae. He agreed that the weight on Mr. Quinto's back would have played an additional role to the compression of his rib cage, thereby causing asphyxiation. He stated that if he saw petechial hemorrhages in Mr. Quinto's eyes, it would have made him consider more favorably, the positional asphyxiation. However, he still believes his diagnosis is fundamentally sound.
13. Dr Ogan agreed that if he had the petechiae Dr Omalu had, it would have been a significant piece of information for him to consider. He would have added "positional asphyxiation" in his diagnosis because the broad petechia Mr. Quinto had in his eyes is evidence of obstruction of respiration. He added that the disruption of Mr. Quinto's respiration was a contributory factor to his death. Dr Ogan stated that based on the expanded toxicology report, there was no fentanyl detected in Mr. Quinto.
14. The urine drug screen at Dr Ogan's autopsy, was positive for barbiturates only. According to Dr Ogan, barbiturates are sedatives used medically for seizures. They could also be used

recreationally for other reasons. Dr Ogan didn't test for fentanyl or opiates. In Dr Ogan's office, autopsies are done as soon as possible and typically, they are done within the next 24 to 48 hours. He conducted Mr. Quinto's autopsy two days after he died, and he has now learned to wait for an extra day at least before conducting an autopsy.

15. During his autopsy today, Dr Ogan based his opinion about the prone position being a contributory factor, on the fact that some of the reports that he read from the law enforcement admitted to either one or two policemen, being on Mr. Quinto's back. The average weight of a policeman which is about 150 to 170 pounds could significantly affect one's ability to breathe and expand one's chest, especially if their hands are handcuffed behind them and they are prone on the ground. Also, another factor would be the bruising Mr. Quinto had on his back and shoulder which are indicative of pressure being applied in those areas.
16. Dr Ogan stated that it wasn't normal to deflate the eyeballs or pull it out during an autopsy. However, it was something he was taught to do when he needed to do it and those are in cases of strangulation or suspicion of ecchymosis or petechiae in the back of the eyes. Deflation of the eyes makes it look collapsed and unnatural. He thinks the eyeballs look deflated in Dr. Omalu's photos. The pictures in Exhibit 1 were taken before Mr. Quinto's eyes were deflated. He does not think there is anything an examiner can do to manipulate the eyes of a decedent to look different.
17. From Dr Ogan's experience, when a person's heart stops beating and their breathing is disrupted, petechiae does not form. Dr Ogan has no studies to show that CPR causes petechiae in the eyes.

Medico-Legal Questions

1. **What were the underlying cause of death, mechanism of death, contributory factor to death and manner of death of Angelo Quinto?**

Medicine is a life science, which is evidence based. The practice of medicine is guided by established standards and generally accepted principles, which certified physicians must adhere to. The specialties and the categories of physicians who are proficiently trained, specialized, and competent in the accurate determination of the cause, mechanism and manner of death are the forensic pathologists, especially for deaths involving all types of trauma and bodily injury. The death of Angelo Quinto involved serious bodily injury.

The College of American Pathologists [CAP] describes the specialty of forensic pathology as follows: "Forensic pathology is the subspecialty of pathology that directs its efforts to the examination of living or dead persons in order to provide an opinion concerning the cause, mechanism, and manner of disease, injury or death; the identification of persons; the significance of biological and physical evidence; the correlation and/or reconstruction of wounds, wound patterns, and sequences; and conducting comprehensive medico-legal death investigations. Forensic pathology applies techniques of pathology to the needs and protection of public health, public safety, quality assurance, education in medicine, research, jurisprudence, and the administration of justice. Its highest goal is the development of strategies to prevent injury, disease, and death."

The CAP also describes a forensic pathologist as follows: "A forensic pathologist is a pathologist with special training and experience in forensic pathology who is actively engaged in medico-legal autopsies and death investigations. Forensic pathologists shall be board-certified by the American Board of Pathology or American Osteopathic Board of Pathology after appropriate training and passing a rigorous examination, or a non-USA based pathologist with equivalent certification. The practicing forensic pathologist is licensed in one or more states; he/she is skilled in conducting death investigations, interpreting injuries in both fatal and non-fatal cases, performing medico-legal examinations, determining disease/injury causation to an appropriate degree of medical certainty, and determining cause and manner of death."

Trauma pattern recognition, interpretation and analyses are the fundamental methodologies the forensic pathologist adopts in the differential diagnoses of causes and mechanisms of injuries and/or death. Trauma pattern recognition, translation and analysis are commonly applied to forensic differential diagnoses, opinions, and conclusions. It is a generally accepted principle and common knowledge in medicine and forensic pathology, that specific traumatic events generate predictable, reproducible, and specific patterns of injuries, outcomes, and death.

The practice of forensic pathology is guided by very well-established and generally accepted principles, which board-certified forensic pathologists must adhere to while they routinely perform differential diagnoses and determine causes, mechanisms, and manners of death. Objective decisions, conclusions and opinions should be made in all types of trauma case analyses strictly based on objective interpretations of patterns of injuries, prevailing forensic scenarios, and trauma pathophysiology. The prevailing global forensic scenarios, the patterns of trauma and the expected outcomes of trauma exhibited by Angelo Quinto are vividly consistent

with fatal and homicidal trauma as prescribed by the well-established and generally accepted patho-physiology of trauma and disease.

The determination of cause and manner of death are guided by and must adhere to very well-established and generally accepted principles and concepts, standards of practice and common knowledge of science and medicine. In order to determine the cause of death of Angelo Quinto accurately and competently, we may have to review these generally accepted principles and concepts, standards of practice and common knowledge. Forensic pathologists cannot determine cause and manner of death at whim outside these principles, concepts, and standards when they perform differential diagnoses to determine causes, mechanisms, and manners of death. Objective decisions, conclusions and opinions should be made in all types of trauma case analysis strictly based on objective interpretations of patterns of injuries and prevailing forensic scenarios, which should be based on these well-established and generally accepted principles and concepts, standards of practice and common knowledge of science and medicine.

There are four components of cause of death, viz: underlying cause of death, contributory factor to death, mechanism of death and manner of death.

What is an underlying cause of death?
The underlying cause of death is defined as the single factor, event, or disease, which instigates or initiates a terminal chain of events that finally culminates in death. It must not be a single disease. An event like compression of the body, a gunshot wound of the head, an assault or a fall can be a cause of death, when it initiates the terminal chain of events. The chain of events, which occurs between the underlying cause of death and death itself, encompasses the mechanisms of death. Mechanisms of death are typically not written on the death certificate.

An illustration is when an individual is shot in the spine causing quadriplegia. Assuming the individual survives for fifteen years after he was shot and develops the known sequelae of quadriplegia like recurrent bronchopneumonia, recurrent aspiration pneumonia, recurrent urinary tract infections, and decubitus ulcers, and finally develops an overwhelming sepsis and dies from sepsis. The underlying cause of death will be the event, gunshot wound of the spine. The terminal chain of events and the mechanisms of death would include the recurrent infections and the sepsis, which finally preceded death. Although the immediate causes of death in this instance are natural diseases, the traumatic gunshot wound of the spine precipitated the natural diseases and would supersede the natural diseases. The cause of death in the death certificate may be completed as “Gunshot Wound of the Spine”.

When unnatural events or diseases, like falls from any height, compression of the body or fractures, co-occur with natural events or diseases, like cancer or heart disease in the cascade of events that precipitate death, the unnatural events or diseases supersede the natural events or diseases and assume the cause and manner of death.

An illustration is a 60-year-old woman who is dying from end-stage cancer and has only several months to live. She is admitted into a hospice care center for comfort care only. She got up from bed one morning to go to the bathroom, slipped, fell on the ground, and impacted her head on the floor. She sustained subdural hemorrhages inside her skull and died several weeks later from complications of cancer and surgery to evacuate the subdural hemorrhage. The cause of death in this instance would be the traumatic brain injury she suffered because it was an unnatural

disease or event, although she had suffered advanced cancer for several years and was dying from terminal cancer, which is a natural disease. The manner of death therefore would be an accident.

For a factor or disease to assume the underlying cause of death, there has to be a contiguous chain of events between the initial occurrence of that factor or disease and the occurrence of death, without any significant breach. The interval between the initiating factor and final demise is immaterial and non-contributory to the determination of an underlying cause of death as far as a contiguous chain of events can be established and competently linked to the initiating factor without any significant breach.

When there is a pre-existing lethal chain of events from any factor or disease, and a novel factor or disease arises, either dependent on, or independent of the pre-existing factor or disease, and successfully disrupts and breaches the contiguity of the chain of events of the pre-existing factor or disease, while initiating a novel lethal chain of events, which culminates in death, the novel factor or disease would assume the underlying cause of death.

An illustration is the instance of a 55-year-old obese man with severe coronary atherosclerotic disease, who has had multiple myocardial infarctions and a triple coronary artery by-pass surgery and has developed and is dying from end-stage congestive cardiac failure from ischemic cardiomyopathy. If this same man falls backwards at home while opening a chest of drawers, which falls on top of him, entraps him and compresses his trunk for about 5 minutes before his 26-year-old son finds him and moves the chest of drawers off him. Unfortunately, by this time he was beginning to lose consciousness. The wife calls 911, paramedics arrive and emergently take him to the hospital where he is successfully resuscitated but had suffered asphyxial brain injury. He is admitted into the intensive care unit where he dies two days later from complications of compression of the trunk and asphyxial brain injury. Although he was suffering and dying from severe and advanced heart disease, the compression of his trunk, which he suffered was a novel and independent factor which instigated a novel chain of events, which successfully interrupted the previously existing chain of events, which culminated in his death. Compression of the trunk would therefore assume the underlying cause of death and determine the manner of death, which in this instance would be an accident. The asphyxial injury of the brain is an unnatural disease and would supersede the natural diseases and assume the cause and manner of death.

For every disease, there are extenuating and aggravating factors, which can either decrease or increase the risk of suffering from or dying from a disease. A contemporaneous or co-morbid disease or factor that increases the risk of a second disease or factor does not denote causation, rather it denotes co-morbidity. Disease or event “A” that is co-morbid with disease or event “B” does not mean disease “A” causes disease “B” and vice versa.

<u>What is a contributory factor to death?</u>
A heading in the death certificate states the following: “Other Conditions Contributing to Death”. A contributory factor to death is defined as any factor, disease, or event, which occurs contemporaneously with the underlying cause of death, possesses an independent capacity to cause death, however the lethality of this capacity is inferior to the lethality of that of the underlying cause of death. The contributory factor may accentuate or accelerate the lethality of the underlying cause of death.

An illustration is the instance of a man who suffers from end-stage metastatic lung cancer and sustains a fracture of his humerus when he fell in his living room. He is taken to the hospital, and he undergoes open reduction and internal fixation with intramedullary rods. He unfortunately suffers a post-traumatic fat embolism following his surgery and dies from acute respiratory failure six days after he sustained his fracture. The underlying cause of death would be acute respiratory failure due to traumatic fat embolism due to fracture of the humerus. The contributory factor to death will be the metastatic lung cancer. The manner of death would be an accident. The lethal capacity of the traumatic fat emboli caused by his fractured humerus is far more superior to the lethal capacity of his lung cancer. This is why the fractured bone killed him within six days while he had survived lung cancer for three years. Traumatic fat embolism from a fractured long bone and metastatic lung cancer independently possess potent lethal capacities, however the lethal capacity of traumatic fat embolism is superior to that of lung cancer; and traumatic fat embolism is an unnatural disease, while lung cancer is a natural disease. Traumatic fat embolism caused by a fracture would therefore become the underlying cause of death and assume the manner of death, which will be an accident. The lung cancer will become the contributory factor to death.

A contributory factor to death may become an underlying cause of death, if and when it instigates a chain of events, which successfully interrupts the pre-existing chain of events of the underlying cause, which has been discussed above. In this instance, the underlying cause of death would become the contributory factor.

What is a manner of death?

The manner of death is a medico-legal terminology, which categorizes the circumstances, which surround death sometimes referred to as “the prevailing terminal forensic scenario”. There are two broad categories of manners of deaths:

1. Natural
2. Un-natural

Natural deaths are deaths caused by known natural diseases as have been published in the International Classification of Diseases. Un-natural deaths are classified into four manners of death:

1. Homicide
2. Suicide
3. Accident
4. Undetermined

For this report, only the homicide manner of death will be defined. A death is classified as a medical homicide when a person intentionally, knowingly, recklessly, or negligently causes the death of another human being. A medical homicide may be deemed as a death that occurs, directly or indirectly, as a result of another person’s actions.

In the determination of manner of death, whenever an un-natural factor plays a role in the causation and mechanism of death, no matter how infinitesimal, the unnatural factor supersedes the natural factors and assumes the manner of death.

The case of Angelo Quinto

Angelo Quinto did not die as a result of Excited Delirium

Dr. Ogan opined that Angelo Quinto died as a result of Excited Delirium. This is grossly inaccurate. Excited Delirium is a neurological and neuropathological symptom that would be best understood and interpreted by a physician who is specialized in the neurological sciences. Dr. Ogan is not a neuropathologist and is not specialized in any of the neurological sciences. There is no indication in his autopsy report that he saved the brain in this case and sent it to a neuropathologist for consult and comprehensive neuropathological examination of the brain. Such a consult and examination should have confirmed that Angelo Quinto did not die as a result of the alleged Excited Delirium. Rather he died as a result of diffuse and global hypoxic-ischemic injury [asphyxial brain injury] due to restraint/ mechanical-positional asphyxiation.

The global prevailing forensic scenario and evidentiary forensic and medical findings in this case, as have been affirmed by and in the second autopsy and report, are consistent with, and confirm that Angelo Quinto, a 30-year-old male, died as a result of restraint asphyxiation. The mechanism of death of Angelo Quinto was an acute asphyxial brain injury, which was induced or instigated by a terminal and pre-morbid restraint asphyxia. Angelo Quinto did not die from Excited Delirium, which is a fictitious diagnosis, to say the least.

In 2009 a panel of medical and mental health experts appointed by the Departments of Justice and Health in Nova Scotia; Canada published a position report that concluded that there is no disease entity called Excited Delirium[2]. Excited delirium is a clinical sign like fever that cannot be recognized as a disease. It is akin to an autonomic hyperactivity state, which is not a disease. In 2022 Physicians for Human Rights published a report that stated that excited delirium is an invalid diagnosis that has become a go-to diagnosis for medical examiners and coroners to use in explaining deaths in police custody, many of which involve restraint asphyxia[3].

The American Psychiatric Association [APA] has not recognized excited delirium as a mental disorder and it is not included in the Diagnostic and Statistical Manual of Mental Disorders [DSM-5]. In their position report in 2020[4], the APA stated the following about excited delirium:

> "The concept of "excited delirium" (also referred to as "excited delirium syndrome (ExDs)") has been invoked in a number of cases to explain or justify injury or death to individuals in police custody, and the term excited delirium is disproportionately applied to Black men in police custody. Although the American College of Emergency Physicians has explicitly recognized excited delirium as a medical condition, the criteria are unclear and to date there have been no rigorous studies validating excited delirium as a medical diagnosis. APA has not recognized excited delirium as a mental disorder, and it is not included in the *Diagnostic and Statistical Manual of Mental Disorders (DSM-5)."*

[2] Report of the Panel of Mental Health and Medical Experts Review of Excited Delirium. https://novascotia.ca/just/public_safety/_docs/Excited%20Delirium%20Report.pdf
[3] "Excited Delirium" and Deaths in Police Custody: The Deadly Impact of a Baseless Diagnosis. https://phr.org/our-work/resources/excited-delirium/
[4] Position Statement on Concerns About Use of the Term "Excited Delirium" and Appropriate Medical Management in Out-of-Hospital Contexts. https://www.psychiatry.org/File%20Library/About-APA/Organization-Documents-Policies/Policies/Position-Use-of-Term-Excited-Delirium.pdf

It is pertinent to note that there are no pathognomonic neuropathological features of excited delirium as a disease entity.

In 1998 Pollanen, MS et al published a paper that shows that in the so-called cases of excited delirium that 100% of their cohort had violent restraint as a significant underlying or contributory factor to death[5].

In 2020 Strommer, EMF et al published a literature review paper that concluded that "When death has occurred in an aggressively restrained individual who fits the profile of either ExDS or AgDS, restraint-related asphyxia must be considered a likely cause of the death"[6].

Moreover, the prevailing autopsy findings in this case confirm that the so-called Excited Delirium was not the cause of death Angelo Quinto.

Angelo Quinto did not die as a result of Acute Drug Intoxication

Modafinil was detected in Angelo Quinto's hospital blood sample. The level of Modafinil in his blood was stated to be 15 mcg/mL (15 mg/mL). Modafinil is a prescription medication that is used for the pharmacologic management of excessive sleepiness associated with narcolepsy, obstructive sleep apnea and shift work disorder. It improves wakefulness in adult patients and is an alpha-1-adrenergic agonist, and is believed to bind to the dopamine transporter and inhibits dopamine reuptake, which is associated with increased extracellular dopamine levels in some brain regions[7,8,9,10,11,12,13].

The presence of a drug in the blood of a deceased person does not equate to causation of death. The toxic effects of a drug cannot be only or fully deciphered solely based on the level of the drug in the blood. This is outside the generally accepted guidelines and standards of practice of clinical pathology and interpretative toxicologic analysis for the determination of cause of death[14]. The toxic effects of a drug are multifactorial and are determined by many independent and sometimes mutually exclusive factors. Chronic use of most drugs results in psychologic

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[5] Pollanen MS, Chiasson DA, Cairns JT, Young JG. Unexpected death related to restraint for excited delirium: a retrospective study of deaths in police custody and in the community. CMAJ. 1998 Jun 16;158(12):1603-7. PMID: 9645173; PMCID: PMC1229410.

[6] Strömmer EMF, Leith W, Zeegers MP, Freeman MD. The role of restraint in fatal excited delirium: a research synthesis and pooled analysis. Forensic Sci Med Pathol. 2020 Dec;16(4):680-692. doi: 10.1007/s12024-020-00291-8. Epub 2020 Aug 22. PMID: 32827300; PMCID: PMC7669776.

[7] Ferner RE. Post-mortem clinical pharmacology. British Journal of Clinical Pharmacology, 2008;66(4):430-443.

[8] Schulz M et al. Therapeutic and toxic blood concentrations of nearly 1000 drugs and other xenobiotics. Critical Care, 2012;16:R136.

[9] Regenthal R et al. Drug levels: therapeutic and toxic serum/plasma concentrations of common drugs. Journal of Clinical Monitoring and Computing, 1999, 15:529-544.

[10] Schulz M et al. Therapeutic and toxic blood concentrations of nearly 1000 drugs and other xenobiotics. Critical Care, 2012;16:R136.

[11] Regenthal R et al. Drug levels: therapeutic and toxic serum/plasma concentrations of common drugs. Journal of Clinical Monitoring and Computing, 1999, 15:529-544.

[12] Baselt RC, Disposition of Toxic Drugs and Chemicals in Man, 11th edition, Biomedical Publications, Seal Beach, California, 2017.

[13] Provigil (Modafinil): Uses, Dosage, Side Effects, Interactions, Warning (rxlist.com)

[14] Ferner RE. Post-mortem clinical pharmacology. British Journal of Clinical Pharmacology, 2008;66(4):430-443.

dependence and tolerance, therefore, the effects of a drug like Modafinil may be modulated by the drug use history of each individual. Chronic use and exposure result in chronic drug tolerance, resistance and habituation and as time passes the individual would use and need higher levels of drugs to achieve the same effects.

According to the eleventh edition of the Disposition of Toxic Drugs and Chemicals in Man by Randall C. Baselt[15], the usual adult dose of Modafinil is 200-400 mg given in 1-2 portions. "Healthy adults receiving 400 mg oral doses each day for 3 weeks attained average peak plasma levels of 13 mg/L at 1.9 hours for Modafinil, 5.7 mg/L at 2.9 hours for Modafinil acid and 4.0 mg/L at 4.7 hours for Modafinil sulfone." "Most victims of acute overdosage do not exhibit signs of life-threatening toxicity such as severe hypertension, hyperthermia or seizures. Two teenage girls who ingested overdoses manifested tachycardia, anxiety, mydriasis and either hallucinations or delirium; their serum Modafinil levels were 13-18 mg/L at 18-24 hours post-ingestion." These further confirm that without the interaction with the police on December 23, 2020 Angelo Quinto would not have died on December 26, 2020. He did not die from any drug toxicity.

Levetiracetam was also detected in Angelo Quinto's hospital blood sample. The level of Levetiracetam in his blood was also 15 mcg/mL [15 mg/L]. The toxic blood level of Levetiracetam is 400 mg/L[16,17,18,19,20,21]. It is therefore extraordinarily unlikely that Angelo Quinto died as a result of Levetiracetam toxicity.

Levetiracetam is a prescription medication that is used for the pharmacologic management of partial-onset seizures, myoclonic seizures, and primary generalized tonic-clonic seizures in patients of varying ages. It is believed to bind to the synaptic vesicle protein SV2A, thought to be involved in the regulation of vesicle exocytosis, which correlates with the potency of the antiseizure activity[22].

It is pertinent to note that given the prevailing forensic scenario and prevailing evidentiary findings, there was no reasonable or forensically significant toxic synergism between Modafinil and Levetiracetam.

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[15] Baselt RC, Disposition of Toxic Drugs and Chemicals in Man, 11th edition, Biomedical Publications, Seal Beach, California, 2017.
[16] Ferner RE. Post-mortem clinical pharmacology. British Journal of Clinical Pharmacology, 2008;66(4):430-443.
[17] Schulz M et al. Therapeutic and toxic blood concentrations of nearly 1000 drugs and other xenobiotics. Critical Care, 2012;16:R136.
[18] Regenthal R et al. Drug levels: therapeutic and toxic serum/plasma concentrations of common drugs. Journal of Clinical Monitoring and Computing, 1999, 15:529-544.
[19] Schulz M et al. Therapeutic and toxic blood concentrations of nearly 1000 drugs and other xenobiotics. Critical Care, 2012;16:R136.
[20] Regenthal R et al. Drug levels: therapeutic and toxic serum/plasma concentrations of common drugs. Journal of Clinical Monitoring and Computing, 1999, 15:529-544.
[21] Baselt RC, Disposition of Toxic Drugs and Chemicals in Man, 11th edition, Biomedical Publications, Seal Beach, California, 2017.
[22] Keppra (Levetiracetam): Uses, Dosage, Side Effects, Interactions, Warning (rxlist.com)

The manner of death of Angelo Quinto is a homicide and not an accident

The restraint asphyxiation and asphyxial brain injury suffered by Angelo Quinto, which caused his death were directly caused by another person or persons, therefore, the manner of death will be a homicide and not an accident as has been alleged by Dr. Ogan.

An accident is when death occurs as an unexpected outcome. An example is when a resident physician is driving from the medical examiner's office to the university hospital for a conference and while on transit, she is involved in a fatal car crash and dies. The expected outcome was that she would arrive at the hospital and the unexpected outcome was a violent death in a motor vehicular crash. In the case of Angelo Quinto, he suffered serious bodily injury in the hands of other persons, and caused by other persons, and that serious bodily injury was asphyxial brain injury. Death is a known and expected outcome of asphyxial brain injury so the manner of his death cannot be an accident.

In this instance of the unexpected and violent death of Angelo Quinto the prevailing terminal forensic scenario and evidentiary findings are not in question and have been confirmed with a reasonable degree of medical certainty. Therefore, the manner of death cannot and should not be determined to be an accident. Angelo Quinto died from restraint asphyxiation which was an injury induced or caused by another person or other persons. Restraint asphyxiation was an independent and mutually exclusive significant or substantial factor that resulted or contributed to the sudden and unexpected death of Angelo Quinto. The manner of death of Angelo Quinto is a homicide.

In his comment in the autopsy report, Dr. Ogan stated the following: "Prone position with weight on the back may have played an additional role" in the death of Angelo Quinto. Dr. Ogan recognized that the actions of the police officers may have contributed to the death of Mr. Quinto, yet he did not make this a homicide. In the determination of manner of death, whenever an un-natural factor plays a role in the causation and mechanism of death, no matter how infinitesimal, the unnatural factor supersedes the natural factors and assumes the manner of death. If the prone position and weight placed on this back may have played a role in his death, then these should have been listed as contributory factors to death, which should have made the manner of death a homicide.

In his report. Dr. Ogan described the face, eyelids, eyeballs, conjunctivae, and neck to be unremarkable. However, the second autopsy and the autopsy pictures revealed the presence of numerous petechial hemorrhages in the right and left bulbar and palpebral conjunctivae, which were accentuated on the right with several purpuric hemorrhages. There were also patchy cutaneous petechial hemorrhages in the bilateral anterior and lateral neck, accentuated on the right, and on the bilateral superior shoulders, supraclavicular fossae and rostral anterior chest. Dr. Ogan also described no significant changes in the brain, meanwhile the brain revealed the following changes, which were documented by the second autopsy and are pathognomonic of asphyxial brain injury:

1. Diffuse, global, and non-selective neuronal eosinophilic necrosis, cerebral neocortex, cerebellar cortex, subcortical cerebral and cerebellar nuclei, hippocampus, relatively sparing the medulla oblongata
2. Diffuse neuropil edema, with peri-neuronal vacuolation, expansion of Virchow Robin spaces, and neuropil microspongiosis, gray and white matter
3. Diffuse global congestive brain swelling

4. No eosinophilic neuronal necrosis of spinal neurons, including anterior horn neurons, intermediolateral cell column and Clark's nucleus

Moreover, the medical and clinical records and notes confirmed that Angelo Quinto suffered from and was diagnosed with Anoxic brain damage/ encephalopathy, yet Dr. Ogan failed to recognize and describe asphyxial brain injury in his autopsy report. Excited Delirium Syndrome, which was his diagnosis does not cause asphyxial brain injury. I believe that if the whole brain in this case was forwarded to a board-certified forensic neuropathologist like myself for examination, the asphyxial brain injury may have been identified at the time of the first autopsy and the cause, mechanism and manner of death may have been different. Also, the toxicologic profiles of Angelo Quinto are inconsistent with any forensically significant drug overdose or toxicity. Any suggestion of a drug overdose was an erroneous "overkill" and overstretched diagnosis.

Dr. Ogan's failure to identify and elicit these pathognomonic and diagnostic features of restraint asphyxiation may have significantly contributed to his misdiagnosis of Angelo Quinto's cause, mechanisms, and manner of death[23].

Angelo Quinto died as a result of restraint asphyxiation

As has been clearly documented in the second autopsy report, the prevailing evidentiary autopsy findings in this case, combined with the prevailing evidentiary clinical findings and diagnoses, and the prevailing terminal forensic scenario confirm that Angelo Quinto, died as a result of restraint asphyxiation.

When Angelo Quinto first encountered the police on December 23, 2020, he was not in any form of lethal distress and was not dying. A novel factor or event occurred unexpectedly and suddenly in his life beginning after 11:13 pm on December 23, 2020. He progressively lost consciousness following restraint asphyxiation, which began when police officers first made a violent physical contact with him and forced him to the ground. At approximately 11:25 pm paramedics confirmed that Angelo Quinto was unresponsive. In spite of advanced cardiac life support and CPR he remained in coma and was pronounced death on December 26, 2020 at approximately 1:44 pm.

The global evidentiary clinical and autopsy findings in this case confirm that Angelo Quinto suffered asphyxial brain injury [hypoxic-ischemic brain injury]. The human brain is a post-mitotic organ and can only survive on oxygen and glucose, which are supplied by blood that come from the heart, primarily in the internal carotid arteries and the vertebral arteries. While the brain is only about 2-3% of the body weight, it receives approximately 15% of the cardiac output at a rate of 750-900 ml/min of blood. The normal range of perfusion of the brain is about 50 to 65 ml/100 g/min [80-100 ml/100g/min for the gray matter and 20—25 ml/100g/min for the white matter, at a rate of oxygen consumption of 3.5 ml/100 g/min. The normal brain tissue partial pressure of oxygen is 35 to 40 mmHg. Brain tissue oxygen levels below 30 mmHg may

[23] I must state that I know Dr. Ogan personally and he is actually a friend of mine. I know him to be a good person and a competent and intelligent doctor and I respect him a lot. He may have made an innocent mistake in this case, and such a mistake does not in any way undermine his integrity or competence for there is no human being who does not make a mistake once in a while, including myself, in spite of how good you may be in whatever you do.

cause brain tissue injury, and at 20 mmHg, the risk of brain damage becomes exponentially elevated. The threshold for brain infarction is 10-12 ml/100g/min of blood supply with neuronal injury and death beginning in 60 to 180 seconds.

Being a post-mitotic organ, the human brain does not have any reasonable capacity to regenerate itself. This means that when the human brain suffers any type of irreversible injury, that injury is permanent and cannot be reversed or cured by the brain or by medical therapy. There are so many types of brain injuries. Asphyxial brain injury [hypoxic-ischemic brain injury] is only one type of brain injury. For the human brain to suffer irreversible hypoxic-ischemic brain injury, there has to be impaired supply of oxygen and blood to the brain for a relatively long period. The established and generally accepted median or mean reference threshold time for irreversible hypoxic-ischemic brain damage to occur is 3 to 5 minutes in cumulative time. This means that irreversible brain damage can occur in less than 3 minutes or in more than 5 minutes, but with a mean or median time of close to 3 to 5 minutes. The restraint asphyxiation and asphyxial brain injury comprised a continuum of asphyxial factors, events, and activities, which comprised mechanical-positional asphyxiation and blunt force trauma of the body.

The brain is about the only organ in the human body that exhibits the concept of cumulative injury, cumulative risk exposure to injury, or repetitive cumulative injury. Being a post-mitotic organ, if the brain suffers an injury, and within a relatively short time, suffers a repeat injury, the eventual outcome is an exponential and multiplicative combined effect of the two injuries, which increase the risk of sudden death. In traumatic brain injury, some refer to this concept as the second impact syndrome. This concept does not only apply to injuries suffered within a short time. For example, in football players who suffer Chronic Traumatic Encephalopathy [CTE] their risk of developing CTE is primarily based on their cumulative exposure to mild and seemingly innocuous sub-concussive and concussive blows to the head across time [years]. The risk of permanent and irreversible brain injury and death was exponentially increased in a cumulative manner when Angelo Quinto suffered contiguous restraint asphyxiation and blunt force and compressive trauma of his body.

The forensic question that arises at this juncture is what caused Angelo Quinto' asphyxial brain injury? Any factor that impairs the entire respiratory functioning of the human being can result in the deprivation of oxygen to the brain. Absolute deprivation [complete absence of oxygen-anoxia] is not necessary for the brain to suffer brain injury. Any factor that impairs the body's ability to inspire oxygen and expire carbon dioxide, impairs the body's ability to bind oxygen to hemoglobin, impairs the body's ability to transmit oxygenated blood to the brain, impairs the brain's ability to absorb oxygen from oxygenated blood, impairs the brain's ability to utilize oxygen, and to transmit carbon dioxide to the blood and transport it out of the brain tissues can result in hypoxic-ischemic injury to the brain. Diminishing levels of oxygen and increasing levels of carbon dioxide in brain tissue impairs the cerebral vascular autoregulation, which results in impaired vascular perfusion of the brain, which causes combined hypoxic-ischemic injury of the brain. This means that the brain does not have to suffer complete lack of oxygen or blood to suffer brain damage. There are multiple metabolic factors that can ameliorate or aggravate the risk of brain damage at varying levels of oxygen, glucose, and blood supply to the brain.

Compression and blunt force trauma of the head, face, neck, trunk, and extremities also cause neurological compression and blunt force injury to vital nerves and plexuses in the trunk, head, and neck, which decreases respiration and systemic blood pressure, which in turn decreases cerebral perfusion pressure, which accentuates the hypoxic-ischemic injury of the brain. When

the motor, sympathetic and parasympathetic innervations, and systems of the nerves in the trunk and neck, including but not limited to the vagus nerve, phrenic nerve, glossopharyngeal nerve, hypoglossal nerve, cervical sympathetic trunks, and cervical parasympathetic ganglia, undergo sustained compression and blunt force trauma, there is a combined effect of bradycardia, systemic hypotension, cardiac arrest, and respiratory arrest. The higher the scale of the compression, the more sustained the compression is and the longer the compression lasts the greater the risk of attaining irreversible neurological injury and the greater the risk of suffering permanent and irreversible end-organ consequences, like we have in the case of Angelo Quinto.

For normal and optimal respiratory activity to occur the thoracic pressure remains at negative atmospheric pressure to support intricate homeostatic undulations of intrathoracic pressure that allow normal and effortless respiratory movements of the diaphragm, chest, and lungs. Compression of the trunk and body as we have in this case undermines this homeostatic balance and increases the risk of respiratory failure, asphyxial injury of the brain and sudden death.

Angelo Quinto was forcefully handcuffed behind his back, placed prone on the unyielding ground, and officers forcefully applied weights and forces on him, held him down and pressed his head, face, neck, trunk, and extremities prone on the ground while he was handcuffed. The continuum of contiguous, sustained, and persistent restraints lasted for longer than the expected 60-180 second threshold for initiation of neuronal cellular injury and death[24]. Certain human positions like the prone position with compression of the body are incompatible with the optimal anatomic and physiologic respiratory functioning of a human being.

It is pertinent to note that it takes only 4.4 pounds of pressure to compress the jugular veins and only 11 pounds of pressure to compress the carotid arteries of the neck. Compression of the jugular veins only is sufficient to cause asphyxial brain injury during compression of the neck. In order to compress the trachea or larynx, we need greater than 33 pounds of pressure, which is about 8 times the amount of pressure needed to compress the internal jugular veins. The underlying pathophysiological mechanism of asphyxial brain injury by mechanical-positional asphyxiation is vasogenic with decreased cerebral blood perfusion and consequent ischemic cerebral injury by occlusion of the arteries and veins that transmit blood to and from the brain. Compression of the airways is not the underlying mechanism of injury for asphyxial brain injury by compression of the neck.

It is also pertinent to note that human beings who are suffering all forms of asphyxial injuries can perform phonation functions unless there is a direct early or preceding damage to the vocal cords and glottis. Some degrees of phonation may be expected, although impaired, but complete loss of phonation is not expected until there is paralysis of the glottis, directly or neurologically.

During Angelo Quinto's sustained restraint asphyxiation, he exhibited non-volitional symptoms and signs of imminent brain injury and damage, which included but were not limited to agitation, acute confusional state and restlessness, however these symptoms were misconstrued by officers to be those of volitional and intentional resistance to restraint and arrest. Such a misinterpretation of symptoms and signs increased Angelo Quinto's risk of sustaining irreversible asphyxial brain injury and death as the officers continued and intensified the mechanical-positional restraint.

[24] Angelo Quinto's restraint lasted for about 5-8 minutes in estimated cumulative period.

Compressive forces placed on Angelo Quinto who was obviously in a high metabolic and stress state requiring high respiratory rates, would become forensically significant and can result in or contribute to an adverse outcome like we have in this case by increasing the risk of eventual asphyxial brain injury.

In spite of any pre-existing medical history Angelo Quinto may have had, a novel, independent and mutually exclusive, unnatural event occurred which comprised restraint asphyxiation. This novel chain of traumatic events successfully interrupted and breached any pre-existing chain of events, instigated a novel chain of events, which resulted in unexpected death. The underlying cause of death therefore will be Restraint Asphyxiation. There was a contiguous chain of events between the onset of restraint asphyxiation and death.

In the differential diagnosis of the cause of death of Angelo Quinto, there is no other forensic or medical evidence that may suggest or indicate that Angelo Quinto died from any other probable disease or cause of death outside Asphyxial Brain Injury due to Restraint Asphyxiation.

If Angelo Quinto did not encounter the police on December 23, 2020, more likely than not, he would not have died on December 26, 2020, and was not expected to die. The autopsy did not reveal any natural disease that was killing him. There is almost no adult who does not suffer from one form of ailment or the other. An absolutely normal human being is an anomaly. We all suffer from one ailment or the other including drug abuse, which is a disease. However, most of our ailments are treatable and manageable and do not expect to kill us at the young age of 30 years old.

For every disease or cause of death, there are extenuating and aggravating factors, which can either decrease or increase the risk of suffering from or dying from a disease. A contemporaneous or co-morbid disease or factor that increases the risk of a second disease or factor does not denote causation, rather it denotes co-morbidity. Disease or event “A” that is co-morbid with disease or event “B” does not mean disease “A” causes disease “B” and vice versa. In this case of Angelo Quinto, the contemporaneous occurrence of any alleged drug intoxication was co-morbid with Restraint Asphyxiation and was not the cause of his fatal asphyxial brain injury. The alleged drug intoxication may have increased or decreased the lethal risk of his asphyxial brain injury, but it did not cause his restraint asphyxiation or asphyxial brain injury. At most, acute drug intoxication may be classified as a contributory factor to death and not an underlying factor to death. Restraint asphyxiation was an independent and mutually exclusive significant or substantial factor that resulted or contributed to the sudden and unexpected death of Angelo Quinto. With or without any other contemporaneous factor or disease like drug intoxication, Angelo Quinto would still have died from restraint asphyxiation on December 26, 2020.

Brain injury depresses adenosine triphosphate synthesis, with failure of ion pumps and irreversible membrane failure, rapid efflux of potassium ions and influx of sodium, calcium, and chloride ions, along with water [cytotoxic or cellular edema]. The energy-dependent excitotoxic amino-acid [glutamate and aspartate] uptake mechanisms in presynaptic nerve terminals and astrocytes result in extracellular accumulation of glutamate and/ or aspartate, and prolongation of the stimulation of the N-methyl-D-aspartate [NMDA], kainate and alpha-amino-3-hydroxy-5-methyl-4-isoxazole [AMPA] membrane receptors. Additional calcium and sodium ions then enter the neuron through open NMDA, kainate and AMPA receptor channels

[mechanoporation]. Further disruption of cellular organelles and function ensues when proteases, calpains, endonucleases, phospholipases ad other catabolic enzymes are released. These changes in concert cause rapid cell death, which manifests as pyknosis, amphophilia and eosinophilia of neurons [red dead neurons].

Angelo Quinto suffered a terminal acute myocardial infarction as part of his cascade of restraint asphyxial injury exposure, pain infliction and distress. Acute myocardial infarction causes cardiac arrhythmia and cardiac arrest, which causes hypoperfusion of the brain, which causes hypoxic-ischemic cerebral injury. The myocardial infarction he suffered as a direct result of his cumulative injury exposure aggravated and accentuated asphyxial brain injury and made death more imminent.

According to the international classification of myocardial infarctions[25], there are five types of myocardial infarctions, viz: Types 1, 2, 3, 4 and 5.

Type 1 myocardial infarction is precipitated by an atherosclerotic plaque disruption, rupture, or erosion. The thrombotic component may lead to distal coronary embolization. Plaque rupture is complicated by intraluminal thrombosis and by hemorrhage into the plaque through the disrupted surface. Angelo Quinto did not suffer a Type 1 myocardial infarction.

Type 3 myocardial infarction occurs when a patient presents with myocardial injury or ischemia including presumed new ischemic EKG changes or ventricular fibrillation and dies suddenly and unexpectedly before it is possible to obtain blood or cardiac biomarker determination. Or the patient dies after the onset of symptoms before an elevation of biomarker values has occurred. Autopsy does not show any ruptured or disrupted plaque and no intraluminal thrombosis. Angelo Quinto did not suffer a Type 3 myocardial infarction. Type 3 myocardial infarction allows the separation of fatal myocardial infarction events from the much larger group of sudden death episodes that may be cardiac [non-ischemic] or non-cardiac in origin.

Type 4 myocardial infarction occurs as a result of cardiac procedural myocardial injury related to percutaneous coronary intervention and revascularization procedures. It may be related to the procedure itself, which may reflect periprocedural issues or complications of a device such as early or late stent thrombosis or in-stent restenosis. Angelo Quinto did not suffer a Type 4 myocardial infarction.

Type 5 myocardial infarction occurs as a result of cardiac procedural myocardial injury related to coronary artery bypass grafting procedures. It may be related to the procedure itself, which may reflect periprocedural issues or complications, graft occlusion or stenosis. Angelo Quinto did not suffer a Type 5 myocardial infarction.

Angelo Quinto suffered a Type 2 myocardial infarction**.** As the article states[26]:
“The pathophysiological mechanism leading to ischemic myocardial injury in the context of a mismatch between oxygen supply and demand has been classified as type 2 myocardial infarction. By definition, acute atherothrombotic plaque disruption is not a feature of type 2

[25] Thygesen K et al. Fourth universal definition of myocardial infarction [2018]. European Heart Journal, 2019;40:237-269.
[26] Thygesen K et al. Fourth universal definition of myocardial infarction [2018]. European Heart Journal, 2019;40:237-269.

myocardial infarction. In patients with stable known or presumed Coronary Atherosclerotic Disease, an acute stressor such as an acute gastrointestinal bleed with a precipitous drop in hemoglobin, or a sustained tachyarrhythmia with clinical manifestations of myocardial ischemia, may result in myocardial injury and a type 2 myocardial infarction. These effects are due to insufficient blood flow to the ischemic myocardium to meet the increased myocardial oxygen demand of the stressor. Ischemic thresholds may vary substantially in individual patients depending on the magnitude of the stressor, the presence of non-cardiac comorbidities, and the extent of underlying Coronary Atherosclerotic Disease and cardiac structural abnormalities."

"The short- and long-term mortality rates for patients with type 2 myocardial infarction are generally higher than for type 1 myocardial infarction patients in most but not all studies due to an increased prevalence of comorbid conditions. Coronary atherosclerosis is a common finding in type 2 myocardial infarction patients selected for coronary angiography."

"The context and mechanisms of type 2 myocardial infarction should be considered when establishing this diagnosis. The myocardial oxygen supply/demand imbalance attributable to acute myocardial ischemia may be multifactorial, related either to: reduced myocardial perfusion due to fixed coronary atherosclerosis without plaque rupture, coronary artery spasm, coronary microvascular dysfunction [which includes endothelial dysfunction, smooth muscle cell dysfunction, and the dysregulation of sympathetic innervation], coronary embolism, coronary artery dissection with or without intramural hematoma, or other mechanisms that reduce oxygen supply such as severe bradyarrhythmia, respiratory failure with severe hypoxemia, severe anemia, hypotension/shock; or to increased myocardial oxygen demand due to sustained tachyarrhythmia or severe hypertension with or without left ventricular hypertrophy".

It becomes vividly obvious that Angelo Quinto suffered from a terminal Type 2 myocardial infarction/ myocardial ischemic injury which precipitated his cardiac arrest. A type 2 myocardial infarction does not require coronary atherosclerotic disease to be present to occur. The fundamental principle and criterion for a type 2 myocardial infarction is the presence of a stressor or stressors, which place the heart at an increased demand for oxygen, and when there is a mismatch between the supply of oxygen and the metabolic rate of the heart cells, myocardial injury and infarction occurs. If coronary atherosclerotic disease is present, the blood vessels supplying the heart may not dilate sufficiently or have luminae that can open wide enough for larger amounts of blood to pass per unit time and per unit mass of the heart. Blunt force and compressive trauma, and restraint/ mechanical-positional asphyxiation as we have in this case are independent high-scale stressors, that vividly increased the risk and contributed to the patho-etiology and pathogenesis of a terminal type 2 myocardial infarction, cardiac arrhythmia, cardiac arrest, and death.

So, the presence of coronary atherosclerotic disease is not the underlying cause of a type 2 myocardial infarction but a comorbidity that can contribute to the mechanism of injury of myocardial ischemia and infarction. The terminal type 2 myocardial infarction he suffered was more likely than not responsible for the terminal cardiac arrest he eventually suffered. Myocardial infarction synergized with, aggravated, and accentuated other asphyxial injuries and made death more likely and imminent.

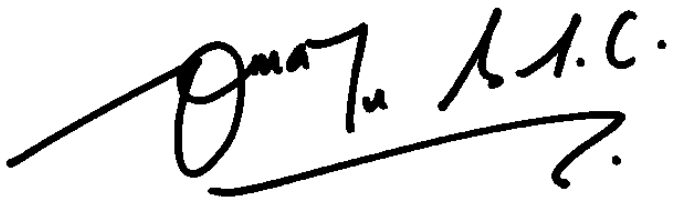
In summary therefore, if not for the physical restraints suffered by Angelo Quinto in the hands of the police on December 23, 2020, it was more likely than not that he would not have died on December 26, 2020, from the asphyxial brain injury he suffered in the hands of another person or other persons. The autopsies confirmed that prior to his encounter with the police, Angelo Quinto was not dying, was not expected to die, and death was not imminent.

I have provided my opinions and conclusions with a reasonable degree of medical and scientific certainty.

I reserve the right to amend, supplement, revise and/or modify my opinions and report, up and to the time of trial, should additional information become available.

Very truly yours,

I, Bennet I. Omalu, swear under penalty of perjury that all of the foregoing facts are true and correct, and if called as a witness to testify under oath to the same would testify that said facts are true and correct.



Bennet I. Omalu, MD, MBA, MPH, CPE, DABP-AP,CP,FP,NP
Clinical Pathologist, Anatomic Pathologist, Forensic Pathologist, Neuropathologist, Epidemiologist
President and Medical Director, Bennet Omalu Pathology
Clinical Professor of Medical Pathology and Laboratory Medicine, University of California, Davis